

The tight-lipped chondrites

John Wood promoted considerable interest at the LPSC last month when, in an invited talk, the Masursky Lecture, he explained his exasperation with the little progress that has been made in understanding the formation of meteorites. "They have remained tight-lipped for 150 years and will remain so for the next hour."

John is a man of courage who has contributed much to the subject of small-body planetary science. Forty years ago he made bold suggestions as to the nature of meteorites and their origin in the nebula. He has been very influential in bringing astrophysicists into the field and creating and testing ideas for the way in which chondrites could have been formed in the nebula. But despite the great many theories and a great deal of new data, there is still no consensus as to how chondrites and chondrules formed. In many respects, he was right in his pessimism. Some of us now argue that we should revisit the planetary theories that were popular in the late sixties and early seventies.

But surely John is also wrong. We have learned and agree on much that is fundamental. We all have our favorite lists, here is mine. Meteorites (by which, of course, I mean chondrites) are ancient, meteorites have solar composition, meteorites have primitive textures. The cosmic-ray exposure age distributions demonstrate that large fractions of the major classes come from a very limited number of parent objects. Several short-lived radionuclides were present when the chondrites formed. The rest, as they say, is interpretation, some of it very speculative.

John Wood was exactly right to express his concerns about the slow rate of progress. Without such cautionary expositions, how else can we challenge and stretch ourselves to maintain the effort? How else can we avoid the ever-present pitfall of allowing ourselves to luxuriate in our innate fascination for these objects without getting to grips with the real problems? How else can we avoid another ever-present pitfall of producing endless amounts of exquisite data, with increasingly impressive and expensive machines, and incredible detail, that do not address the real issues in any substantial way (Shaw, 2000).

Through the invited reviews, critical manuscript review, and attempting to broaden the appeal of the journal to include asteroids, comets and astrophysics, the editorial board of *Meteoritics & Planetary Science* remains committed to addressing these issues. We applaud John for his courage and wisdom, and we hope they lead to an even greater dedication by us all, especially our younger colleagues, to our collective efforts to understand.

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Editor

REFERENCES

- SHAW D. M. (2000) Nothing succeeds like excess. *Meteorit. Planet. Sci.* **35**, 6.